

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)				PROJECT 2808	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2808 Nuc Detonation Det Sys (sensors)	14,908	21,525	21,180	25,944	23,706	24,126	24,815	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

The Nuclear Detonation (NUDET) Detection System (NDS) provides a worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or in near space in near-real time. The NDS supports NUDET detection requirements for USSPACECOM (Integrated Tactical Warning and Attack Assessment (ITW/AA)), USSTRATCOM (Nuclear Force Management), and AFTAC (Treaty Monitoring). NDS consists of space and ground segments. The space segment consists of NUDET detection sensors (optical, x-ray, dosimeters and EMP) on Global Positioning System (GPS) satellites, and DSP satellites (neutrons and gamma rays). The ground segment includes the Integrated Correlation and Display System (ICADS) and the Ground NDS Terminals (GNT).

This NDS program element funds Research and Development of ICADS, GNT, and NDS analysis payload (NAP). ICADS provides a fixed ground receiving station. GNT provides a survivable ground receiving station. NAP improves existing NDS capability and will be integrated onto GPS Block IIR satellites 13-21. The NDS community, as a result of the NDS National Review, moved funding for the EMP sensor research and production to DOE and integration funding for the first 12 satellites to GPS Space and Control (PE 0305165F), with ground segment development remaining in the NDS PE.

(U) **FY 2001 (\$ in Thousands)**

(U) \$9,571	Continued ICADS and GNT development
(U) \$1,309	Continued NDS sensor on-orbit qualification
(U) \$3,651	Continued Space Long Range Planning
(U) \$377	Continued Mission Support requirements
(U) \$14,908	Total

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$16,045 Continue ICADS and GNT development</p> <p>(U) \$1,244 Continue NDS sensor on-orbit qualification</p> <p>(U) \$948 Continue Mission Support and system studies</p> <p>(U) \$3,288 Continue Technical Support</p> <p>(U) \$21,525 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$15,498 Continue ICADS and GNT development</p> <p>(U) \$1,189 Continue NDS sensor on-orbit qualification</p> <p>(U) \$1,100 Continue Mission Support and system studies</p> <p>(U) \$3,393 Continue Technical Support</p> <p>(U) \$21,180 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p style="padding-left: 20px;">This program is in Budget Activity 7 - Operational System Development because it is a post-Milestone III program.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 15%; text-align: center;"><u>FY 2001</u></th> <th style="width: 15%; text-align: center;"><u>FY 2002</u></th> <th style="width: 15%; text-align: center;"><u>FY 2003</u></th> <th style="width: 15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">11,977</td> <td style="text-align: center;">18,823</td> <td style="text-align: center;">19,980</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">12,088</td> <td style="text-align: center;">21,823</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: center;">-111</td> <td style="text-align: center;">-298</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: center;">-791</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: center;">3,722</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: center;">1,200</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: center;">14,908</td> <td style="text-align: center;">21,525</td> <td style="text-align: center;">21,180</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	11,977	18,823	19,980	TBD	(U) Appropriated Value	12,088	21,823			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-111	-298			b. Small Business Innovative Research	-791				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	3,722				e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR			1,200		(U) Current Budget Submit/FY 2003 PBR	14,908	21,525	21,180	TBD
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<div style="display: flex; justify-content: space-between;"> Project 2808 Page 2 of 6 Pages Exhibit R-2 (PE 0305913F) </div>																																																									

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0305913F NUDET Detection System (Space)				2808	
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>									
(U) <u>Significant Program Changes:</u> FY02 Congressional add of \$3,000K for EMP. FY03 adjustment of \$1,200K transfers EMP funding from National Foreign Intelligence Program (NFIP) line to NDS line where it is managed.									
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Operations & Maintenance, (PE 0305913F, BA 1, Operating Forces	7,223	4,736	8,653	8,145	8,981	9,227	9,442	Continuing	Continuing
(U) Missile Procurement, (PE 0305913F, BA 5 - Space and Other Support, P-23)	16,965	18,933	0	0	0	0	0	0	35,898
(U) Other Procurement, (PE 0305913F, BA 3 - Electronics and Telecom Equipment, P-58)	2,571	8,411	7,937	12,666	11,853	12,289	12,597	Continuing	Continuing
(U) Related RDT&E:									
(U) PE 0305165F, NAVSTAR GPS (Space/Ground Segment)									
(U) PE 0305911F, Defense Support Program									
(U) <u>E. Acquisition Strategy</u>									
The NDS Acquisition Strategy is to develop and procure components to sustain the U. S. NDS capability for the GPS Block IIR and IIF satellites. Funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DoE) to Sandia and Los Alamos National Laboratories on existing DOE contracts.									
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February 2002

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

07 - Operational System Development

0305913F NUDET Detection System (Space)

2808

(U) F. Schedule Profile

	<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) GPS IIR O&M (S/W Modifications)	*	*	*	*										
(U) ICADS Operational Strings move to SBIRS Facility						X								
(U) GPS IIF Use Case Model Review	*		*			X		X		X		X		
(U) GPS IIF System Specification Review						X				X				
(U) GPS IIF Phase Review	*		*		*		X		X		X			

* = Completed Event; X = Planned Event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0305913F NUDET Detection System (Space)					2808	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		
(U) ICADS and GNT development					8,427		16,045		15,498		
(U) NDS sensor on-orbit qualification					1,309		1,244		1,189		
(U) Mission support requirements and system studies					377		948		1,100		
(U) Technical support					1,144		3,288		3,393		
(U) Space Long Range Planning					3,651		0		0		
(U) Total					14,908		21,525		21,180		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>		<u>Contract</u>									
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>			
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		<u>Total Prior</u>	
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2001</u>	
<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget</u>		<u>Budget to</u>	
<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		<u>Complete</u>		<u>Total</u>		<u>Program</u>	
<u>Product Development Organizations</u>											
Sandia National Labs		MIPR		Oct 94				44,790		7,984	
GNT: Intermetrics		CPFF		Dec 93		1,262		1,262		1,262	
SAIC (Intg/Grd Supt)		Time/Matls		Dec 95						4,344	
Combined GOSC/NAP:		FFP		Oct 97		3,633		3,633		6,166	
Lockheed Martin											
SAIC		Time/Matl		Dec 97		432		432		432	
W-Sensor: SRI (Stanford		CPFF		Aug 94		415		415		415	
Rsch Inst.)											
Los Alamos Natl Lab		MIPR		Jan 96				4,077		1,309	
										1,244	
										1,189	
										Continuing	
										TBD	
<u>Support and Management Organizations</u>											
Mission Support		Multiple		N/A						3,602	
Prog Contractual Spt.		Multiple		Various		1,534		1,534		1,534	
Technical Support		Multiple		Various		N/A		N/A		1,144	
										3,288	
										3,393	
										Continuing	
										TBD	
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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT							
07 - Operational System Development				0305913F NUDET Detection System (Space)				2808							
(U) <u>Performing Organizations Continued:</u>															
<u>Test and Evaluation Organizations</u>															
Hill AFB Utah				9	9	9	0	0	0	0	9				
(U) <u>Government Furnished Property:</u>															
				<u>Contract</u>											
				<u>Method/Type</u>		<u>Award or</u>									
<u>Item</u>				<u>or Funding</u>		<u>Obligation</u>		<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>				<u>Vehicle</u>		<u>Date</u>		<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>															
N/A															
<u>Support and Management Property</u>															
N/A															
<u>Test and Evaluation Property</u>															
N/A															
										<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>										<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development										61,486	9,736	17,289	16,687	TBD	TBD
Subtotal Support and Management										5,136	5,172	4,236	4,493	TBD	TBD
Subtotal Test and Evaluation										9	0	0	0	0	9
Total Project										66,631	14,908	21,525	21,180	TBD	TBD

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